

## REVISIONS TO CLAIMS

1 1. (previously presented) Method of recording information in units on a record carrier having a  
2 track for consecutively recording the information units at addressable locations, the information  
3 being represented in the track by series of marks of different runlengths between a minimum  
4 runlength and a maximum runlength and synchronizing patterns of marks, which patterns do not  
5 occur in the series of marks and comprise at least one long mark of at least the maximum  
6 runlength, said method comprising:  
7 (a) encoding at least one information unit into a modulated signal comprising signal elements  
8 corresponding to said marks,  
9 (b) scanning said track up to a link position before a selected one of said addressable locations,  
10 and  
11 (c) recording the modulated signal from the link position,  
12 (d) the modulated signal is provided at the begin and/or at the end with a link signal element  
13 corresponding to a link mark of at most the minimum runlength.

2. (previously presented) Method as claimed in claim 1, wherein the link signal element  
corresponds to a mark shorter than the minimum runlength.

1 3. (previously presented) Device for recording information in units on a record carrier having a  
2 track for consecutively recording the information units at addressable locations, the information  
3 being represented in the track by series of marks of different runlengths between a minimum  
4 runlength and a maximum runlength and synchronizing patterns of marks, which patterns do not

## REVISIONS TO CLAIMS

5 occur in the series of marks and comprise at least one long mark of at least the maximum  
6 runlength, said device comprising

7 encoding means for encoding at least one information unit into a modulated signal  
8 comprising signal elements corresponding to said marks, and

9 recording means for scanning said track up to a link position before a selected one of said  
10 addressable locations and recording the modulated signal from the link position,

11 the encoding means are arranged for providing the modulated signal at the begin and/or  
12 at the end with a link signal element corresponding to a link mark of at most the minimum  
13 runlength.

4. (previously presented) Device as claimed in claim 3, wherein said runlengths are expressed in steps of a channel bit, and the encoding means are arranged for providing the link signal element corresponding to a link mark one channel bit shorter than the minimum runlength.

5. (previously presented) Device as claimed in claim 3, wherein the encoding means comprise synchronizing means for providing said at least one long mark in the synchronizing pattern at a runlength longer than the sum of the maximum runlength and the runlength of the link mark.

1 6. (previously presented) Device as claimed in claim 3, wherein the encoding means comprise  
2 synchronizing means for providing the synchronizing pattern having said at least one long mark  
3 followed by a short mark of a runlength shorter than the maximum runlength, and the encoding  
4 means are arranged for providing a second link signal element after the link signal element at the

## REVISIONS TO CLAIMS

5 begin of the modulated signal, the second link signal element corresponding to a mark differing  
6 from the short mark.

1 7. (previously presented) Device as claimed in claim 3, wherein the encoding means comprise  
2 means for variably selecting one out of a set of fixed linking sequences that each start with the  
3 link signal element followed by further signal elements for recording marks up to a first  
4 synchronizing pattern, substantially half of the linking sequences of the set having an odd  
5 number of mark boundaries.

8. (previously presented) Device as claimed in claim 7, wherein the linking sequences have a  
fixed length of 8 channel bits, and the set of fixed linking sequences comprises 10100000 and  
10100100, or 10010000 and 10010010, each 1 indicating a mark boundary.

9. (previously presented) Device as claimed in claim 3, wherein the device comprises means  
compressing digital or analog input signals into units of information.

10. (previously presented) The device of claim 9, wherein the input signals are audio and/or  
video signals.

11. (previously presented) Device as claimed in claim 4, wherein the encoding means comprise  
synchronizing means for providing said at least one long mark in the synchronizing pattern at a  
runlength longer than the sum of the maximum runlength and the runlength of the link mark.

## REVISIONS TO CLAIMS

12. (previously presented) A record carrier produced by the method of claim 1.

1 13. (previously presented) A method comprising:

2 encoding an information unit;

3 forming a recording signal of signal elements, the recording signal containing: a linking  
4 signal element, a synchronizing pattern of signal elements, and the encoded information unit;

5 selecting an addressable location on the track of a record carrier;

6 scanning the track up to a link position before the selected addressable location, and

7 recording the recording signal as marks corresponding to the signal elements and starting

8 at the link position, the marks having different run lengths, the marks representing the

9 information unit having run lengths that vary from a minimum run length to a maximum

10 runlength, the pattern of marks representing the synchronizing pattern not occurring in the marks

11 representing the information unit and including a long mark of at least the maximum runlength,

12 the mark representing the link signal element having a run length of at most the minimum

13 runlength.

1 14. (previously presented) A recording device comprising:

2 encoding means for encoding at least one information unit, and for variably selecting one

3 out of a set of fixed linking sequences that each start with a link signal element followed by

4 further signal elements, and for providing a recording signal of signal elements, the recording

5 signal containing the selected linking sequence, a synchronizing pattern, and the encoded

6 information unit: and

## REVISIONS TO CLAIMS

7 recording means for selecting an addressable location in the track of a record carrier, and  
8 for scanning said track up to a link position before the selected addressable location and for  
9 recording the recording signal starting at the link position, the marks having different run  
10 lengths, the marks representing the information unit having run lengths that vary from a  
11 minimum run length to a maximum runlength, the pattern of marks representing the  
12 synchronizing pattern not occurring in the marks representing the information unit and including  
13 a long mark of at least the maximum runlength, the mark representing the link signal element  
14 having a run length of at most the minimum runlength.

1 15. (currently amended) The method of claim 12,  
2 wherein:

3 the runlengths are expressed in steps of a channel bit, and the link signal element is one  
4 channel bit shorter than the minimum runlength;

5 the at least one long element in the synchronizing pattern has a runlength longer than the  
6 sum of the maximum runlength and the runlength of the link element;

7 in the synchronizing pattern the at least one long element is followed by a short element  
8 of a runlength shorter than the maximum runlength;

9 the recording signal includes a first link signal element at the beginning of the recording  
10 signal and a second link signal element immediately following the first link signal element, the  
11 second link signal element having a different runlength then the first link signal element;

12 the method further comprises variably selecting one out of a set of fixed linking  
13 sequences that each start with the link signal element followed by further signal elements, the  
14 further signal elements being immediately followed by a first synchronizing pattern, and

## REVISIONS TO CLAIMS

15 substantially half of the linking sequences of the set having an odd number of element  
16 boundaries;  
17 the linking sequences have a fixed length of 8 channel bits, and the set of fixed linking  
18 sequences including 10100000 and 10100100, or 10010000 and 10010010, each 1 indicating a  
19 element boundary; and  
20 the method further comprises processing or compressing digital or analog input signals  
21 such as audio and/or video into units of information.

1 16. (previously presented) A method comprising:  
2 encoding an information unit;  
3 variably selecting one out of a set of fixed linking sequences that each start with a link  
4 signal element followed by further signal elements;  
5 forming a recording signal of signal elements, the recording signal containing: the  
6 selected linking sequence, a synchronizing pattern, and the encoded information unit;  
7 selecting an addressable location on the track of a record carrier;  
8 scanning the track up to a link position before the selected addressable location, and  
9 recording the recording signal as marks corresponding to the signal elements and starting  
10 at the link position, the marks having different run lengths, the marks representing the  
11 information unit having run lengths that vary from a minimum run length to a maximum  
12 runlength, the pattern of marks representing the synchronizing pattern not occurring in the marks  
13 representing the information unit and including a long mark of at least the maximum runlength,  
14 the mark representing the link signal element having a run length of at most the minimum  
15 runlength, the linking sequences each have a fixed length of 8 channel bits, the set of fixed

## REVISIONS TO CLAIMS

linking sequences being selected from: a first set including 10100000 and 10100100; and a second set including 10010000 and 10010010; wherein each 1 indicating a mark boundary and the number of 0's between 1's indicating the run length between mark boundaries.

17. (previously presented) A recording device comprising:

encoding means for encoding at least one information unit, and for variably selecting one out of a set of fixed linking sequences that each start with a link signal element followed by further signal elements, and for providing a recording signal of signal elements, the recording signal containing the selected linking sequence, a synchronizing pattern, and the encoded information unit: and

recording means for selecting an addressable location in the track of a record carrier, and for scanning said track up to a link position before the selected addressable location and for recording the recording signal starting at the link position, the marks having different run lengths, the marks representing the information unit having run lengths that vary from a minimum run length to a maximum runlength, the pattern of marks representing the synchronizing pattern not occurring in the marks representing the information unit and including a long mark of at least the maximum runlength, the mark representing the link signal element having a run length of at most the minimum runlength, the linking sequences each have a fixed length of 8 channel bits, the set of fixed linking sequences being selected from: a first set including 10100000 and 10100100; and a second set including 10010000 and 10010010; wherein each 1 indicating a mark boundary and the number of 0's between 1's indicating the run length between mark boundaries.

## REVISIONS TO CLAIMS

1 18. (new) A sequence of electromagnetic signals for recording on optical media and comprising:

- 2 ○ a linking section comprising a link signal element for generating a short link mark, which
- 3 linking section is substantially shorter than a frame in length;
- 4 ○ a synchronizing section, following the link section and comprising a synchronizing signal
- 5 element for generating a long synchronizing mark;
- 6 ○ other signals, after the synchronizing section, for generating marks that have runlengths in a
- 7 given range;

8 the short link mark, the long synchronizing mark and the given range being such that the short  
9 link mark — when concatenated with the longest possible mark in the given range — will  
10 generate a mark shorter than the long synchronizing mark, whereby minor errors in placement of  
11 the linking section over pre-recorded data will not result in accidental creation of a concatenated  
12 mark that could be confused with the long synchronizing mark.

1 19. (new) The sequence of claim 18 further comprising

2 a second linking section, after the other signals, which second linking section is also  
3 substantially smaller than a frame in length and comprises a second link signal element for  
4 generating a second short link mark, such that the recording of the other signals, in combination  
5 with data previously recorded, does not result in a concatenated mark that would mimic the long  
6 synchronizing mark and would be situated at the end of the marks generated by the sequence.

7 20. (new) The sequence of claim 18, wherein

- 8 ○ the link signal element comprises a channel bit sequence of “101”;
- 9 ○ the synchronizing signal element comprises a transition bit sequence of 14 channel bits.



## REVISIONS TO CLAIMS

21. (new) The sequence of claim 18, wherein the linking section is short enough to be compatible with CD-R, CD-RW, DVD, and DVD-RW. 7  
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1 22. (new) A sequence of electromagnetic signals formatted for recording on optical media

2 comprising:

3     ○ a synchronizing section comprising a synchronizing signal element for generating a long  
4         synchronizing mark;

5     ○ other signals, after the synchronizing section, for generating information marks that have  
6         runlengths that are shorter than the long synchronizing mark;

7     ○ a link section comprising a link signal element for generating a short link mark immediately  
8         after the last information mark, which short link mark is no longer than the shortest  
9         information mark, which link section is substantially shorter than a frame in length,

10     so that the recording of the other signals, in combination with data previously recorded, does not  
11     result in a concatenated mark that would mimic the long mark and would be situated at the end  
12     of the sequence, so that false synchronization is avoided.

23. (new) The method of claim 1, wherein the link signal element is part of a linking section  
having a total length substantially less than the length of a frame and sufficiently short to be  
compatible with CD-R, CD-RW, DVD, and DVD-RW. }

## REVISIONS TO CLAIMS

24. (new) The device of claim 3, wherein the link signal element is part of a linking section having a total length substantially less than the length of a frame and sufficiently short to be compatible with CD-R, CD-RW, DVD, and DVD-RW.

25. (new) The method of claim 13, wherein the link signal element is part of a linking section having a total length substantially less than the length of a frame and sufficiently short to be compatible with CD-R, CD-RW, DVD, and DVD-RW.

26. (new) The device of claim 14, wherein the link signal element is part of a linking section having a total length substantially less than the length of a frame and sufficiently short to be compatible with CD-R, CD-RW, DVD, and DVD-RW.

27. (new) The method of claim 1, wherein the information units are organized into ECC units and the method further comprises recording the link signal element at the end of the last C1 code word of the previous ECC unit.

28. (new) The method of claim 27, wherein the link position is after byte 178 of the last C1 code word.

29. (new) The method of claim 27, further comprising introducing a small random shift of the link position to improve direct overwrite cycles.

## REVISIONS TO CLAIMS

30. (new) The method of claim 1, wherein the link position is placed 8 channel bits before a boundary between ECC blocks. A

31. (new) The method of claim 23, wherein the link mark is selected from a pre-determined set of linking sequences that each start with a link mark followed by a predefined but different number of mark boundaries. A W

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